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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/381,631	03/01/2000	PIERRE JEANVOINE	1247-0822-0V	4206

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EXAMINER	
VINCENT, SEAN E	

ART UNIT	PAPER NUMBER
1731	

DATE MAILED: 02/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/381,631	JEANVOINE ET AL.	
	Examiner	Art Unit	
	Sean E. Vincent	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 November 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *38-99 and 101-116* is/are pending in the application.

4a) Of the above claim(s) *41,47-49,51-55,57-76,79-97,99 and 107-114* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *38-40,42-46,50,56,77,78,98,101-106,115 and 116* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on May 27, 2004 was considered by the examiner. An initialed PTO-1449 has been made of record with the office.

Claim Interpretation Notes

2. The Merriam-Webster's Collegiate Dictionary 10th ed. Defines "glass" as "any of various amorphous materials formed from a melt by cooling to rigidity without crystallization." Since the applicant filed to provide an alternate definition of the term "glass", the examiner will continue to rely on the dictionary definition to establish a broadest reasonable interpretation of the applicant's claims. This affects the interpretation of the method step "manufacturing glass" now claimed in that the manufacturing would necessarily include a "cooling to rigidity".

3. Titus et al. (US 3,812,620) is being made of record to assist in the interpretation of some related terms of the art. Floyd et al described some components of the terms "municipal garbage" and "industrial waste". In addition, Titus et al. stated that typical residential rubbish was known to contain 8 percent by weight of glass and ceramics (see col. 4, lines 44 to 68). The examiner considers the terms "garbage", "rubbish", "trash" and "refuse" to be equivalent in the municipal or residential context. Each of these terms is deemed to contain some amount of glass when given the broadest reasonable interpretation.

4. Titus et al. also stated that typical residential rubbish was known to contain 5 percent plastic and hydrocarbons and 8 percent metal. The examiner will continue to interpret "garbage" and the other equivalent terms as containing metals and plastics.

5. Floyd et al described the production of glassy products from molten slag. In addition, Titus et al. stated that the glasses present in a typical mix of refuse "consist primarily of silicon dioxide with perhaps 25 percent other glass forming elements. These materials are not readily decomposed but are meltable into a slag which, upon refining, may be reused to a considerable extent" (see col. 5, lines 4-13). The examiner considers the glass contained in typical refuse to contain common oxides such as silicon dioxide; such oxides being amorphous as described by the dictionary definition of glass.

6. In addition, Titus et al. provided a figure and descriptive text at col. 6, lines 27-37 explaining that glass in the refuse forms "slag" which can be tapped off in molten form. The examiner will continue to interpret "slag" as molten glass.

7. As stated above, Titus et al. established that 'slag' was the molten form of the glass fed with other waste materials into a furnace and that the slag may be reused. Titus et al. continued at col. 6, line 58 to col. 7, line 2 to describe the glass as reusable. More importantly, Titus et al. stated "At the high temperatures utilized not only are all organic materials decomposed into essentially simple gaseous products but the glass content of the waste is separated from the metal content and may be separately withdrawn as useful products." The examiner has continued to interpret "recycling" as no more than the melting and reuse of the glass which is fed into the reactor of Floyd et al with garbage.

8. To summarize, the above terminology was assumed by the examiner to be well known in the art when the following rejections were first presented. In other words, a person of ordinary skill in the art at the time the present invention was made would have understood the terminology defined in Titus et al. and the dictionary. The equivalence of slag and molten glass

was known at least as early as the publication date of Titus et al. If the applicant would prefer to offer alternative definitions for those terms, evidence should be submitted to the office for consideration by the examiner.

Claim Rejections - 35 USC § 102

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. Claims 38, 39, 42-45, 50, 56 and 98 are rejected under 35 U.S.C. 102(b) as being anticipated by Floyd et al (US 5615626). Features of applicant's claims can be found in the abstract, figures, col. 2, line 26 to col. 4, line 10; col. 5, line 34 to col. 6, line 60; col. 7, lines 39-48; col. 8, lines 6-38; col. 10, lines 20-35 and the example. Specifically, oxides, incinerator ash, slag, swarf and mineral feed streams as well as coal were disclosed at col. 3, lines 32-61; col. 4, lines 3-6; col. 6, lines 3-10, 18-24, 55-56; col. 12, lines 16-23 (note "smelting") and 40-42; and col. 13, lines 1-16. Floyd et al, col. 6, lines 56-60 and col. 13, lines 17-22 disclosed that slag was granulated to provide building materials. Submerged combustion with an oxygen or free-oxygen containing gas lance mounted adjustably in the roof of the reactor is shown in col. 3, lines 1-3; col. 5, lines 1-7 and 34-68. The recitation of "municipal waste" in Floyd et al is considered to include various "glazings".

11. Floyd et al produced materials used in landfills or as building materials that were known to contain glassy phases (see Floyd et al, col. 6, lines 50-60). Furthermore, the example of Floyd et al demonstrates that a feed stream containing mostly oxides in the form of steel swarf and incinerator ash was heated to 1230°C. Note also that the total oxide proportion of the waste feed

(col. 13, lines 5-16) was 74%. The oxides in the waste feed stream were well known in the art to be glass formers (see also, col. 4, lines 3-6). These facts, as well as the numerous references to slag and flux, clearly indicate a glass melting process. It should also be noted that the applicant does not claim or disclose a proportion of glass in the feed stream or product of the invention.

12. With regard to claim 43, the figures of Floyd et al illustrated a roof-mounted burner (lance). With regard to claim 44, Floyd et al disclosed convective stirring in col. 3, lines 1-3; col. 5, lines 34-38 and 51-55; and col. 10, lines 20-35. With regard to claim 45, col. 6, lines 44-48 and col. 9, lines 12-19 of Floyd et al and also col. 3, lines 22-32 of Floyd et al disclosed the roof-mounted lance was to be raised and lowered and the level of molten slag was disclosed to be controlled in batch, continuous and semi-continuous melting campaigns. With regard to claim 50, the disclosed melting range in Floyd et al was 1100 to 1400°C (col. 3, line 36). With regard to claim 56, Floyd et al: col. 3, lines 30-33; col. 10, lines 27-29 and figure 1 disclose that vitrifiable materials are introduced below the surface of the molten bath. With regard to claim 98, Floyd et al, col. 6, lines 56-60 and col. 13, lines 17-22 disclosed that slag was granulated to provide building materials.

Claim Rejections - 35 USC § 103

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 40, 46, 78, 101-104, 106, 115 and 116 are rejected under 35 U.S.C. 103(a) as being unpatentable over Floyd et al. With regard to claims 40 and 78, Floyd et al does not specify composite materials containing glass and metal. Col. 2, lines 31-64 of Floyd et al lists many waste products that can be charged into the submerged combustion melter, including motor vehicle tires and vehicle battery casings. It is the position of the examiner that tires and battery casings are known to contain metallic belts and metallic electrodes respectively. It would have been obvious to include glass-metal composite materials because at glass or slag melting temperatures, it would not have mattered whether the metallics were attached to glass parts or organic parts. The metal would have oxidized rapidly no matter to what it was attached.

15. With regard to claim 46, Floyd et al did not disclose a pre-heating step, per se. The examiner notes that a significant proportion of the feed stream of Floyd et al was incinerator ash or steel swarf (see example) and in some cases, recycled slag (see col. 6, lines 53-56). An immediately preceding incineration or steel refining process would have provided pre heated vitrifiable materials. It would have been obvious in the process of Floyd et al to provide the pre heated materials at 900°C or lower since the incineration of organic matter would likely have taken place well below 900°C and the incinerator ash would have to be rushed from the incineration to the melting stage to prevent it from cooling excessively.

16. With regard to claims 101, 103, 104, 106, 115 and 116, Floyd et al did not teach the manufacture of flat glass, bottles, flasks, glass wool, electronic parts, foamy glass or glass fiber. It is the position of the examiner that once the vitrifiable materials of Floyd et al are in a molten

form, it would have been obvious to perform any well-known forming process on the molten materials. Further, no specific method steps for forming such products are claimed, only a general "manufacturing" step is present. The final form of the molten glass does not result in a manipulative difference as compared to the teachings of Floyd et al to manufacture glass products.

17. With regard to claim 106, "Electronic part" reads on any glass shape that could be used as an insulator. With regard to claim 116, Floyd et al did not disclose a specific density. It would have been obvious to a person skilled in the art at the time the invention was made to melt a foamy glass having a density of 0.5 to 2 g/cm^3 for the reasons outlined in the previous paragraph.

18. With regard to claim 102, Floyd et al did not teach a flat product with a solar-protection or fire-resistance function. It is the position of the examiner that future use or properties of the product do not change the manipulative steps of the process of the invention. Furthermore, it would have been obvious to produce a product with a residual blue color in light of the description of the waste feed disclosed by Floyd et al. Note that iron and manganese in small amounts were known in the art to impart a blue color to glass (see Floyd et al, col. 2, lines 32-40).

19. Claims 77 and 105 are rejected under 35 U.S.C. 103(a) as being unpatentable over Floyd et al in view of Greve (US 4983549).

20. Floyd et al did not teach the inclusion of laminated glass or mineral fibers with organic binders in the waste charged into the submerged combustion melter. Greve taught methods of recycling plastic composite materials wherein glass fiber reinforced composites were pyrolyzed and the inorganic pyrolizate was melted into glass products (see col. 3, lines 33-51, col. 4, lines

4-59, col. 5, lines 3-16, col. 6, line 1 to col. 8, line 49 and col. 10, line 41 to col. 11, line 59). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the composites of Greve in the waste charged into the melter of Floyd et al because Floyd et al taught that the organics would combust and leave behind meltable inorganics. Alternatively, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the inorganic pyrolizate of Greve in the ash inclusion of Floyd et al because Greve taught that the pyrolyzate would have melted readily into E glass.

Response to Arguments

21. Applicant's arguments with respect to claims 38-40, 42-46, 50, 56, 77, 78, 98, 101-106, 115 and 116 have been considered but are not persuasive.

22. In response to the argument that Floyd et al's apparatus is an incinerator, not a melting chamber, the examiner disagrees. The applicant and the examiner have a fundamental disagreement as to the meaning of the term "slag". The examiner's interpretation has been outlined in the "Claim interpretation notes" and the rejections. Assuming that slag is actually molten glass, Floyd et al would be a melter.

23. In response to the argument that one skilled in the art would not look to Floyd et al to solve a problem regarding the recovery of vitrifiable materials, the examiner disagrees. The applicant and the examiner have a fundamental disagreement as to the meaning of the terms "slag", "glass" and "garbage". The examiner's interpretation has been outlined in the "Claim interpretation notes" and the rejections. Assuming that slag is actually molten glass and garbage

contains significant quantities of glass to be melted, Floyd et al would be applicable to recycling of glass.

24. In response to the argument that Floyd et al is nonanalogous art, the examiner disagrees. The criteria set forth in MPEP 2141.01 (a) has been used and it is the position of the examiner that for the reasons set forth above, Floyd et al is more than reasonably pertinent to the problem with which the inventor is involved because garbage contains glass and slag is molten glass.

25. In response to the argument that claim 46 would not have been obvious over Floyd et al, the examiner disagrees. Since the applicant does not claim (or provide support for) a minimum temperature for the preheating step, the claim reads on a minimal temperature increase above ambient. For reasons outlined in the rejection, it would have been obvious to expect some of the feed materials of Floyd et al to be hotter than ambient, but less than 900°C.

26. In response to the argument that Floyd et al did not disclose foamy glass, the examiner disagrees. In determining whether a process claim is unobvious over an identical process in the prior art due to a difference in the end product, no per se rules exist, so the determination must be made on a case-by-case basis (MPEP 2116.01). As outlined in paragraphs 16-18 above, the different end product shapes are obvious variants of the glass products of Floyd et al. Since slag is molten glass, solidified or granulated slag is solidified glass.

27. In response to the argument that there is no suggestion that the process of Floyd et al could be used with that of Greve, the examiner disagrees. The examiner demonstrated the motivation to combine Greve with Floyd et al and vice versa, but the applicant did not address these motivational statements or explain why they are supposedy incorrect. This is tantamount to acquiescence with the examiner's statements of motivation.

Conclusion

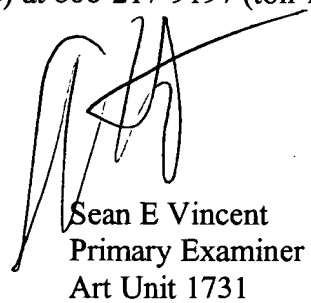
28. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean E. Vincent whose telephone number is (571) 272-1194. The examiner can normally be reached on M - F (8:30 - 6:00).

30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

31. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sean E Vincent
Primary Examiner
Art Unit 1731

S Vincent
February 12, 2005